

CLAIMS:

1. An arc welding control unit comprising a heat radiating unit built in a box body for discharging the air heated by a heat generating first electrical element to the outside, wherein the heat radiating unit has a tunnel-type shape including an outer peripheral portion for defining a cavity portion allowing the air to flow therethrough.
2. An arc welding control unit as set forth in Claim 1, wherein the heat radiating unit has a substantially cuboid shape including a side surface portion and a top surface portion for defining the cavity portion.
3. An arc welding control unit as set forth in Claim 1 or 2, wherein the heat radiating unit has two openings respectively formed in the two side end portions of the cavity portion allowing the air to flow therethrough.
4. An arc welding control unit as set forth in Claim 3, wherein the heat radiating unit is disposed such that the two openings formed in the two side end portions thereof respectively face the inside surface of the box body.
5. An arc welding control unit as set forth in any one of Claims 1 to 4, wherein the heat radiating unit uses the heat generating first electrical element in at least part of the outer peripheral portion defining the cavity portion.
6. An arc welding control unit as set forth in Claim 5, wherein the heat generating first electrical element includes a heat sink having a heat radiating fin, and the heat radiating fin is exposed to the inside of the cavity portion through which the air flows.
7. An arc welding control unit as set forth in any one of Claims 3 to 6, wherein, in one of the two openings, there is provided a fan for forcing the air existing in the cavity portion to flow through the cavity portion.
8. An arc welding control unit as set forth in Claim 7, wherein the fan is

mounted on the opening of the heat radiating unit.

9. An arc welding control unit as set forth in Claim 7, wherein the fan is mounted on an air flow hole portion formed in the box body for allowing the air to flow therethrough.

10. An arc welding control unit as set forth in any one of Claims 1 to 9, wherein the heat radiating unit includes two or more first electrical elements in the outer peripheral portion thereof defining the cavity portion.

11. An arc welding control unit as set forth in any one of Claims 1 to 10, wherein the heat radiating unit include two or more rows of cavity portions.

12. An arc welding control unit as set forth in Claim 11, wherein the heat radiating unit includes fans respectively disposed in every cavity portions formed in two or more rows.

13. An arc welding control unit as set forth in Claim 11 or 12, wherein the heat radiating unit allows the air of different first electrical elements in every cavity portions to flow.

14. An arc welding control unit as set forth in any one of Claims 1 to 13, wherein the first electrical element includes an electrical element used in an inverter circuit arranged in the arc welding control unit.

15. An arc welding control unit as set forth in Claim 14, wherein the first electrical element includes a power transistor.

16. An arc welding control unit as set forth in any one of Claims 1 to 15, wherein the first electrical element includes a rectify diode.

17. An arc welding control unit as set forth in any one of Claims 1 to 16,

wherein, in the cavity portion, there is disposed a heat generating second electrical element.

18. An arc welding control unit as set forth in Claim 17, wherein the second
5 electrical element includes a reactor.

19. An arc welding control unit as set forth in Claim 17 or 18, wherein the
second electrical element includes a transformer.